

employ an active pig, first putting a muzzle upon the "shovel" of the field assistant.

All are parts of a plan well laid,
Including "freakish" things we see;
Why then should mortal dare upbraid
An idiosyncrasy.

N. J. COLLEGE EXPERIMENT STATION,
NEW BRUNSWICK, N. J.

THE NAIADALES OF THE FLORA OF THE LAKE GEORGE REGION

BY STEWART H. BURNHAM

Since July 1, 1891, when I collected my first pondweed, *Potamogeton natans*, some attention has been devoted to this interesting genus in the region covering the counties of Washington, Warren and Saratoga, New York. Potamogetons are specially well represented in the bays of Lake George, and in Furnace Creek, which flows into South Bay, near the head of Lake Champlain.

I well recollect a call on the late Dr. Geo. D. Hulst, August 28, 1899, when he was stopping on Assembly Point, Lake George; and how he spread out his fine collection of pondweeds. At the time I went through the herbarium at the Brooklyn Institute of Arts and Sciences, October 5 and 12, 1901, but a small portion of Dr. Hulst's specimens had been mounted and placed in the herbarium. A few months afterwards Mrs. Hulst loaned me a book in which an exact copy of the Lake George plant labels had been made, before turning over the collections to the Institute. This list contained records of several pondweeds; the specimens of which I have been unable to examine. Dr. Hulst began his collection of pondweeds in 1891; but during the latter years of his life, 1898-1899, preserved most of his specimens. These specimens are now preserved in the herbarium of the Brooklyn Botanic Garden.

The Dr. Chas. H. Hall's specimens are also preserved in the herbarium of the Brooklyn Botanic Garden. There is no doubt

but what further collecting will bring to light other species and forms, specially in Lake George. We have no records of what *Potamogetons* grow in some of the other larger bodies of water in the region; as Saratoga Lake, Cossayuna Lake, Lake Luzerne, Friends Lake and Loon Lake.

Potamogeton natans L. Ponds and slow streams; frequent. An early flowering species; fruiting in August and early September.

Potamogeton Oakesianus Robbins. In still pools of South Beaver Creek, Vaughns. The only station known. Determined by Dr. A. W. Chapman, Jan. 18, 1893.

Potamogeton amplifolius Tuckerm. In ponds and lakes in rather deep water; frequent. Dunhams and Harris bays, Lake George (G. D. Hulst), a specimen from latter station in the State Herbarium at Albany; Lake George, 1876 (C. H. Hall); Dresden, Aug. 22, 1898 (C. H. Peck's notes); South Bay; W. Fort Ann; Fort Ann; Tripoli millpond; Glen Lake; Clarks Pond; Hedges Lake; and Battenkill River near Shushan. Our handsomest species. The rootstocks creeping along the bottoms of ponds give rise to many leafy stems.

Potamogeton epihydrus Raf. Ponds and slow streams; infrequent. Dunhams and Paradise bays, Lake George (Hulst), a specimen from former station in the State Herbarium; pond near Lake Desolation, Aug. 2, 1880 (E. A. Burt's herbarium); South Bay, plants with and without floating leaves; Podunk Pond; Halfway Brook and tributaries; Glen Lake; Battenkill and Fly Kill near Shushan. Formerly known as *P. Claytonii* and *P. Nuttallii*.

Potamogeton americanus Cham. & Schl. Lakes and ponds. Ticonderoga, Essex Co. (Peck), N. Y. State Mus. Rep't 31: 31. 1879; specimen preserved in State Herbarium. Huletts Landing, Lake George (S. E. Jelliffe's list); Halfway Brook, east of Pattens Mills, specimens collected Aug. 13, 1914, have the leaves 20-nerved and blunt; Big Creek, Smiths Basin, this station probably destroyed by building the Barge Canal; Battenkill, south of Shushan. Formerly known as *P. lonchites*.

Potamogeton heterophyllus Schreb. Ponds and lakes. Dun-

hams and Harris bays (Hulst), a specimen from former station in the State Herbarium; Lake George, 1876 (Hall); South Bay; Podunk Pond; Glen Lake; Hedges Lake near Shushan. Specimens collected in Harris bay, Lake George, Aug. 28, 1899, grew in deep water and have no floating leaves.

P. heterophyllus graminifolius (Fries) Morong was found by Hulst at Lake George, July, 1898. This specimen has not been seen.

P. heterophyllus myriophyllus (Robbins) Morong. Lake George, 1876 (Hall). There is also a specimen at Brooklyn Botanic Garden collected by Hall at Lake George in 1876, which he called *P. Tuckermanni* Robbins; which is a synonym of *P. confervoides* Reichb.

Potamogeton angustifolius Berch. & Presl. Glen Lake inlet, Aug. 9, 1900, in flower. Long Pond near Lake George, from 10 feet of water, Aug. 1876 (Hall), as *P. minor*. Glen Lake was formerly known as Long Pond, and undoubtedly these two localities are identical. Formerly known as *P. Zizii*.

Potamogeton praelongus Wulf. Harris Bay, growing in 6-15 feet of water, the stems not reaching the surface (Hulst); Podunk Pond; South Bay; Smiths Basin.

Potamogeton perfoliatus L. Shallow water in ponds and streams; rather frequent. Harris Bay (Hulst), a specimen also in State Herbarium; Dresden (Peck's duplicates); South Bay; Mud Pond, Pattens Mills; Halfway Brook in swift water; Clarks Pond.

P. perfoliatus Richardsonii A. Bennett. South Bay, Sept. 2, 1902; Battenkill south of Shushan (Frank Dobbin), July 19, 1913.

(*Potamogeton crispus* L. Lake George, N. Y.; (Mr. J. H. Eddy) in Torrey's Flora of the Northern and Middle Sections of the United States, Vol. 1: 198. N. Y., 1824. Mohawk River in Wright & Hall's, Catalogue of Plants growing without Cultivation in the Vicinity of Troy, 31. Troy, 1836. In his Flora of the State of New York in 1843, Torrey makes no mention of *P. crispus*. This naturalized species is not given in the first edition of Gray's Manual of Botany of the Northern United States, 1848. It would probably be difficult to say what pondweed was referred

to. Mr. N. Taylor writes me, "*Potamogeton crispus* is in Seneca Lake and at Boston. Why not Lake George or Champlain?" It has been found in "Lake Champlain and tributaries." Flora of Vermont, Vt. Agric. Exp. Sta. Bull. 187: 163. Apr. 1915.)

Potamogeton compressus L. Shallow ponds and streams; rather frequent. Lake George (Hulst), specimen in State Herbarium; Lake George, 1876 (Hall); pond by roadside west of Clemons; South Bay; Podunk Pond; Tripoli millpond; Fort Ann; Mud Pond, Pattens Mills; Glen Lake; Lake Lauderdale; Fly Kill near Shushan; Erie Canal at Crescent, Sept. 8, 1906, station now destroyed. Formerly known as *P. zosteræifolius*.

Potamogeton obtusifolius Mert. & Koch. Bolton, Lake George, Aug. 18, 1880 (Hall); Dunhams Bay in Waterlily Creek, 1891 (Hulst), a specimen in Columbia Herbarium; South Bay, Oct. 6, 1903 and Aug. 21, 1906.

Potamogeton Friesii Ruprecht. Paradise Bay, Aug., 1891, and Dunhams Bay Creek, Aug. 1899 (Hulst). These specimens have not been seen.

Potamogeton pusillus L. Ponds and slow streams; rather frequent. Galway Reservoir, Aug. 16, 1886, the var. *vulgaris* Fr. (Burt's herbarium); Copeland Pond; Tripoli millpond; North and South Beaver Creeks and tributaries; Glen Lake; Hedges Lake near Shushan.

Potamogeton diversifolius Raf. Bakers Falls in Hudson River, Sept. 13, 1900, determined by Dr. Peck. Formerly known as *P. hybridus*.

Potamogeton dimorphus Raf. Lake George, Aug. 1880 (Hall); Paradise Bay (Hulst); sandy shores of Harris Bay, Lake George, Aug. 28, 1899, fruit; Pond Brook in rather swift water, W. Fort Ann P.O., Aug. 17, 1893. Formerly known as *P. Spirillus*.

Potamogeton pectinatus L. Ponds and streams in rather deep water. Lake George (Hulst); South Bay; Tripoli millpond and in Halfway Brook east; Smiths Basin; Lake Lauderdale; Hedges Lake; Battenkill River south of Shushan.

Potamogeton Robbinsii Oakes. Harris Bay, Lake George, Aug. 28, 1899. "*Potamogeton Robbinsii* Oakes. Ballston Lake, July. Though the plants were abundant and the flowering

spikes numerous, the stems being sometimes excessively branched above, no good fruit could be found. The plants grows at the head of the Lake in company with *Potamogeton lonchites*, *P. perfoliatus*, *P. compressus*, *P. hybridus*, *P. Claytonii*, *P. pectinatus* and *Bidens Beckii*." Peck in N. Y. State Mus. Rep't 33: 35. 1880. Plants of *P. Robbinsii* were found among Dr. Peck's duplicates; but he does not seem to have saved specimens of any of the other pondweeds observed at Ballston Lake.

Naias flexilis (Willd.) Rost. & Schmidt. Lakes and slow streams. Lake George, 1876 (Hall); E. Lake George; Glen Lake; Hadlock Pond; South Bay; South Beaver Creek and little pond west of R. W. Bakers, Vaughns; Lake Lauderdale; Clarks Pond, plants rather stout; Battenkill River south of Shushan. The plants are usually sterile; but fine fruiting plants were found in Harris Bay, Lake George, Aug. 28, 1899.

The following species and varieties of pondweeds have been found in the state of Vermont. *Potamogeton epihydrus cayugensis* (Wiegand) Bennett; *P. alpinus* Balbis; *P. Faxoni* Morong; *P. angustifolius connecticutensis* (Robbins) Bennett; *P. heterophyllus*, forma *terrestris* Schlecht.; *P. lucens* L.; *P. bupleuroides* Fernald; *P. confervoides* Reichb.; *P. foliosus* Raf.; *P. foliosus niagarensis* (Tuck.) Morong; *P. rutilus* Wulfg.; *P. Vasey*; Robbins; *P. strictifolius* Bennett; *P. pusillus Sturrockii* Bennett; *P. pusillus tenuissimus* Mert. & Koch; *P. filiformis* Pers.; and *Zannichellia palustris* L. Many of these have been found in Lake Champlain and its tributaries: and a more careful survey will probably add several of these to the Lake George region.

HUDSON FALLS, N. Y.

THE DISCOVERY OF ENDOPHYLLUM SEMPERVIVI (ALB. & SCHW.) DEBARY IN NORTH AMERICA

BY GEORGE M. REED

The writer first observed this interesting rust of *Sempervivum* in the alpine garden of the Brooklyn Botanic Garden on April 21, 1917. One plant of *Sempervivum albertnettii* was found to be